# Rohan Rajappan

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## EDUCATION

Cleveland, OH

**Case Western Reserve University**
*Expected Graduation: May, 2027*
B.S.E. Engineering Physics
GPA: 3.75
*Concentration: Materials Science and Engineering*
B.A. Mathematics

## WORK EXPERIENCE

**Sandia National Laboratories** — Albuquerque, NM
*R&D Intern – Material Lifecycle* — Oct, 2024 - Present

- Designed research project correlating laser powder bed fusion (L-PBF) defects and acoustic data to reduce computational overhead for *in-situ* monitoring.
- Implemented SQL database using DuckDB to consolidate and query over 100 GB of CSV data through Python APIs.
- Optimized data storage, reducing file size by over 10x by manipulating storage methods.
- Automated data analysis workflows using containerized Python environments in Docker.

**SDLE Research Center** — Cleveland, OH
*Undergraduate Research Assistant* — Oct, 2023 – May, 2024

- Developed scripts to quantify regions across multiple datasets of high-speed x-ray imaging.
- Applied and optimized machine learning and edge detection algorithms to analyze terabytes of laser powder bed fusion (L-PBF) imagery.
- Constructed JSON-LD files to FAIRify data of FTIR Spectroscopy instruments.

**Maltz Performing Arts Center** — Cleveland, OH
*Production Assistant* — Sep, 2023 - Present

- Ensured continuous, clear communication among production team in a fast-paced environment.
- Professionally trained with lightboard, soundboard/FOH, camera operation, video switchboard.

Soft Skills: *Rapid Communication, Teamwork, Adaptability, Quick Decision-making*

## LEADERSHIP

**Case Rocket Team** — Sep, 2023 - Present
*Chief Engineer, IREC* — May, 2025 – Present

- Managed team of 50+ engineers in designing launch vehicle, payload experiment, live data measurement, student-researched avionics, and live telemetry.
- Established team structure, requirements, and framework for technical design reviews.
- Wrote technical reports and progress updates, culminating in a 200+ page technical report.

*Aerostructures Lead Engineer* — Jul, 2024 – Jun, 2025

- Designed, simulated, and manufactured 2025 rocket optimized for supersonic flight to an altitude of 30,000 ft on a commercial motor.
- Managed CAD and part directory for the entire rocket assembly with 100+ individual parts.
- Fabricated, prepared, and conditioned surfaces for all composite molds while educating other members and documenting the process.
- Prepared final rocket report as second author, earning maximum design and quality score.

*PR Manager* — Apr, 2024 – Apr, 2025

- Authored and designed a comprehensive sponsorship package detailing project scope, team value, and funding tiers, acquiring over $10k in product and finances.

## SKILLS

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| Linux/CLI | Java | MATLAB | R/RStudio | JavaScript |
| Git/Version Control | Azure | SOLIDWORKS | HTML/CSS | Virtual Machines |